What is claimed is:

1.   A computer readable medium for controlling the operation of an automated machine, the computer readable medium comprising machine readable instructions for causing a computer to perform a method comprising:

5   issuing a command set to initiate a plurality of nucleic acid isolation
                functions by a nucleic acid isolation apparatus, wherein the nucleic
                acid isolation functions comprise:
          loading a vessel into a centrifuge;
          centrifuging a sample;
10   aspirating a sample;
          mixing a sample;
          dispensing into a sample;
          controlling the temperature of a function;
          removing material from a sample;
15   separating a sample; and
          removing and separating a sample.

2.   The computer readable medium of claim 1, wherein controlling the temperature of a function is chosen from a group consisting of heating a sample, 20 cooling a sample, heating a reagent, cooling a reagent, heating while performing a nucleic acid isolation function, and cooling while performing a nucleic acid isolation function.

3.   The computer readable medium of claim 1, wherein removing material from 25 sample is done by a method chosen from a group consisting of aspirating, pouring and saving, and pouring and discarding.

4.   The computer readable medium of claim 1, wherein separating a sample is done by a method chosen from a group consisting of centrifugation, magnetic

capture, electrical charge, gravity, affinity capture, hybridization capture, pressure, vacuum, forced liquid, and forced gas.

5.   The computer readable medium of claim 1, wherein removing and separating
5   a sample is done by a method chosen from the group consisting of washing, filtering, and flow through.

6.   A computer system for configuring a machine to automatically perform a method of isolating nucleic acids, the computer system comprising:
10   a computer;
        a computer readable medium comprising machine readable instructions for causing the computer to output a command series to an automated nucleic acid isolation machine for control of the functions of nucleic acids isolation process.

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7.   The computer system of claim 6, wherein the computer readable medium comprises:
        a software module comprising:
            a centrifugation sub-module for issuing commands initiating centrifuging of a sample for a centrifuge time and a centrifuge
20   speed;
            an aspiration sub-module for issuing commands initiating aspirating a sample to remove a volume of fluid from a sample;
            a mixing sub-module for issuing commands initiating mixing a
25   sample;
            a dispensing module for issuing commands initiating dispensing into a sample an amount of a specific reagent;
            a temperature control module for issuing commands to control the temperature of a function;

a removal module for issuing commands to remove material from a

sample;

a separation module for issuing commands to separate a sample into

components; and

5   a combination removal and separation module for issuing commands

to control separating and removing a sample.

8.   The computer system of claim 6, and further comprising:

a graphical user interface for selecting a sequence of commands to be output

10   by the computer.

9.   A control module for controlling the operation of an automated nucleic acids

isolation apparatus, the module comprising:

a processor; and

15   a program module comprising a set of machine readable instructions for

issuing commands to the automated nucleic acids isolation apparatus

to perform a series of steps, comprising:

centrifuging a sample;

aspirating a sample;

20   mixing a sample;

adding a reagent to the sample;

controlling the temperature of an isolation function;

removing material from a sample;

separating a sample; and

25   separating and removing a sample.

10.   The control module of claim 9, wherein the control module is implemented in

a computer readable medium.

11. The control module of claim 9, wherein the control module is implemented in a dedicated processor.

12. The control module of claim 9, wherein the program module is burned into
5 the processor in hard code.

13. The control module of claim 9, wherein the program module is implemented in a programmable logic controller.

10 14. A computer control module for an automated nucleic acids isolation apparatus, the control module comprising:
   a plurality of sub-modules, each sub-module comprising machine readable
      instructions for creating a command to the nucleic acids isolation
      apparatus to perform a process step of the nucleic acids isolation
15   process; and
   an output link for communicating the commands to the nucleic acids isolation
      apparatus.

15. The computer module of claim 14, wherein the plurality of sub-modules
20 comprises:
   a centrifuge sub-module for issuing commands initiating centrifuging of a
      sample for a centrifuge time and a centrifuge speed;
   an aspirate sub-module for issuing commands initiating aspirating a sample to
      remove a volume of fluid from a sample;
25 a mixing sub-module for issuing commands initiating mixing a sample;
   a dispensing module for issuing commands initiating dispensing into a
      sample an amount of a specific reagent;
   a temperature control module for issuing commands to control the
      temperature of a function;
30 a removal module for issuing commands to remove material from a sample;

a separation module for issuing commands to separate a sample into components; and

a combination removal and separation module for issuing commands to control separating and removing a sample.

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16.   The computer module of claim 14, and further comprising

a user input/output interface for programming a process comprising a plurality of invocations of the various sub-modules of the computer module.

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17.   The computer module of claim 14, wherein each of the sub-modules is configured to accept input of values for issuing commands.

18.   The computer control module of claim 17, wherein the control module is

15   implemented in a machine readable medium comprising a set of machine readable instructions.

19.   The computer module of claim 14, wherein the control module is implemented in a dedicated processor.

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20.   A method of defining a protocol for automated isolation of nucleic acids by an apparatus for nucleic acids isolation using a software module having a plurality of nucleic acids isolation sub-modules, the method comprising:

selecting a sub-module;

25   selecting an operational sequence for the selected sub-module;

defining the sub-module specific parameters; and

repeating selecting a sub-module through defining the sub-module parameters until the desired protocol is complete.

30   21.   The method of claim 20, and further comprising:

re-ordering the sub-module execution sequence after the desired protocol is

complete.

22.   The method of claim 20, wherein the method may be performed in a different

5   order.